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=> file casreact
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FILE CONTENT:1840 - 17 Mar 2007 VOL 146 ISS 12

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*                                                          *
*     CASREACT now has more than 12 million reactions      *
*                                                          *
************************************************************

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provided by InfoChem, INPI data prior to 1986, and Biotransformations
database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance
identification.

=> d que
L3              STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -  AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L5          104 SEA FILE=CASREACT SSS FUL L3 (   435 REACTIONS)
L6            3 SEA FILE=CASREACT L5 AND ZIRCONIU?


=> d l6 1-3 ibib abs fcrd


L6   ANSWER 1 OF 3  CASREACT  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         144:390922  CASREACT
TITLE:                    Stereoselective oxidation processes for the
                          preparation of chiral substituted sulfoxides from the
                          racemic sulfides
INVENTOR(S):              Kumar, Neela Praveen; Khanna, Mahavir Singh; Prasad,
                          Mohan; Kumar, Yatendra
PATENT ASSIGNEE(S):       Ranbaxy Laboratories Limited, India
SOURCE:                   PCT Int. Appl., 23 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
     WO 2006040635      A1   20060420       WO 2005-IB2946   20051004
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
             LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ,
             NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG,
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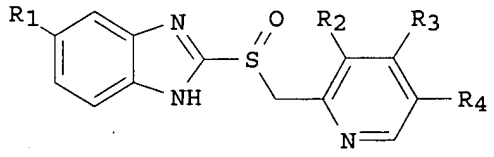
SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.: IN 2004-DE1957 20041011
OTHER SOURCE(S): MARPAT 144:390922
GI



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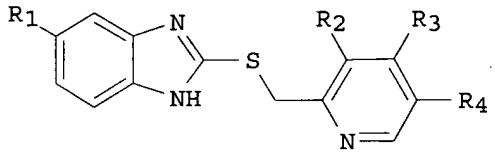
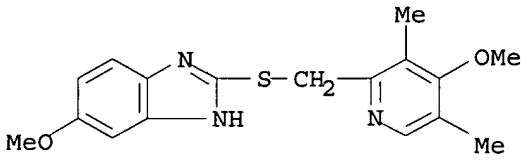


II

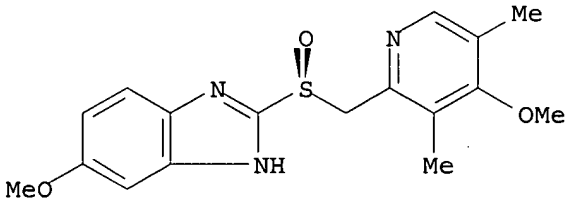
AB An enantioselective catalytic oxidation process for the preparation of an optically active enantiomer or an enantiomerically enriched form of a substituted pyridinylmethylsulfinylbenzimidazole [I; R1-R4 = H, C1-4 (un)branched alkyl, C1-4 (un)branched alkoxy, aryl, aryloxy], or its pharmaceutically acceptable salts (e.g., esomeprazole potassium), comprises oxidizing a prochiral sulfide (II; e.g., omeprazole sulfide) in the presence of a chiral transition metal complex [e.g., titanium isopropoxide and L-(+)-diethyl tartrate] and a base (e.g., diisopropylethylamine) in the absence of an organic solvent with an oxidant (e.g., cumene hydroperoxide) followed by an optional salification (e.g., potassium hydroxide).

RX(1) OF 3



(step 2)

1. Ti(OPr-i)4, Di-Et L-tartrate
2. Cumene hydroperoxide, Di-Et L-tartrate, EtN(Pr-i)2
3. KOH, MeOH



K

NOTE: optimization study, stereoselective
CON: STAGE(1) room temperature -> 50 deg C; 1.5 hours; 25 - 30 deg C
STAGE(2) 25 - 30 deg C; 3 hours, 25 - 30 deg C
STAGE(3) 25 - 35 deg C; 15 - 16 hours, 25 - 35 deg C

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 144:51582 CASREACT
TITLE: Process for the preparation of pyridin-2-ylmethylsulfinyl-1H-benzimidazoles via oxidation of the corresponding sulfides in the presence of zirconium or hafnium complexes.
INVENTOR(S): Kohl, Bernhard; Mueller, Bernd; Weingart, Ralf Steffen
PATENT ASSIGNEE(S): Altana Pharma AG, Germany
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005118569	A1	20051215	WO 2005-EP52471	20050531
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2005250175	A1	20051215	AU 2005-250175	20050531

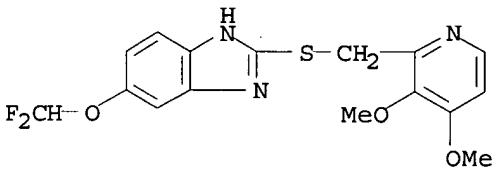
CA 2568652	A1	20051215	CA 2005-2568652	20050531
EP 1758889	A1	20070307	EP 2005-752651	20050531

R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU

PRIORITY APPLN. INFO.: EP 2004-102467 20040602
WO 2005-EP52471 20050531

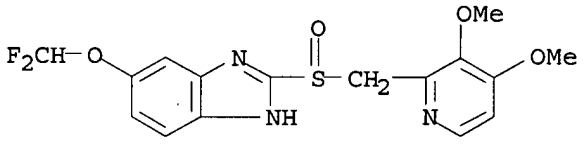
AB A process for preparing mixts. of enantiomers of proton pump inhibitors (PPIs) having a sulfinyl structure comprises oxidation of the corresponding sulfides in the presence of a mixture of enantiomers of chiral zirconium or hafnium complexes. Thus, 5-difluoromethoxy-2-[(3,4-dimethoxy-2-pyridinyl)methylthio]-1H-benzimidazole was heated with DL-tartaric acid bis(N-pyrrolidinamide) and zirconium tetra-n-propoxide in Me iso-Bu ketone at 40° for 1 h followed by addition of diisopropylethylamine and slow addition of cumene hydroperoxide to give 75% 5-difluoromethoxy-2-[(3,4-dimethoxy-2-pyridinyl)methylsulfinyl]-1H-benzimidazole.

RX(1) OF 1



(step 1)

1. C:23519-77-9, C:871366-86-8, i-BuCOMe, PrOH
2. Cumene hydroperoxide, EtN(Pr-i)2
3. Na2S2O3, NaHCO3, i-BuCOMe, Water



75%

NOTE: optimization study
CON: STAGE(1) 1 hour, 40 deg C; 40 deg C -> room temperature
STAGE(2) room temperature; 5 - 24 hours, room temperature

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 3 CASREACT COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 141:54346 CASREACT
TITLE: A process for preparing (S)-pantoprazole via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium catalyst
INVENTOR(S): Kohl, Bernhard; Mueller, Bernd; Weingart, Ralf Steffen
PATENT ASSIGNEE(S): Altana Pharma Ag, Germany
SOURCE: PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2004052881	A2	20040624	WO 2003-EP13604	20031203
WO 2004052881	A3	20041104		
W: AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, EG, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
CA 2507889	A1	20040624	CA 2003-2507889	20031203
AU 2003293749	A1	20040630	AU 2003-293749	20031203
EP 1575941	A2	20050921	EP 2003-789113	20031203
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003016702	A	20051018	BR 2003-16702	20031203
CN 1717402	A	20060104	CN 2003-80104409	20031203
JP 2006514985	T	20060518	JP 2005-502309	20031203
IN 2005MN00673	A	20051021	IN 2005-MN673	20050627
US 2006167262	A1	20060727	US 2005-536891	20051125
PRIORITY APPLN. INFO.:			EP 2002-27274	20021206
			DE 2003-10340254	20030829
			WO 2003-EP13604	20031203

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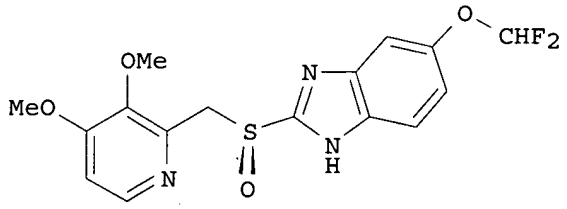

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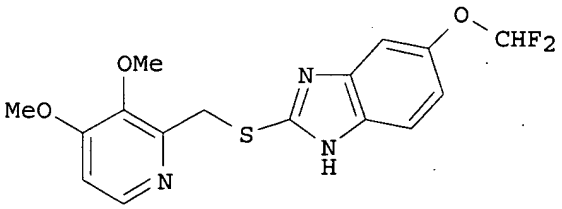
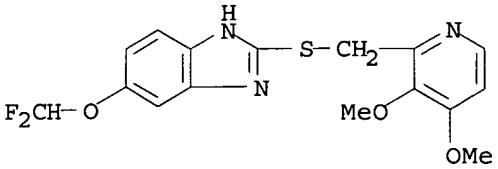


II

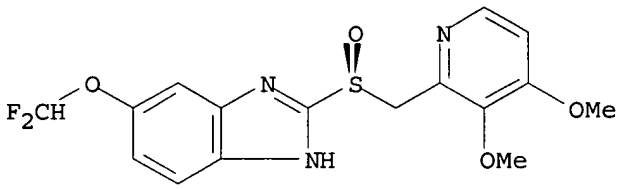
AB The invention relates to a novel process for preparing (S)-pantoprazole (I) via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium catalyst. For instance, the title compound I, useful as proton pump inhibitor, was prepared from thiobenzimidazole derivative II in the presence of L-tartaric acid amide via Zr(IV) isopropoxide catalyzed oxidation by cumene hydroperoxide with a yield of 80% (optical purity was >98%, example 3).

RX(1) OF 1



(step 1)

1. C:63126-10-3, i-BuCOMe
2. C:23519-77-9, Me2CHOH
3. EtN(Pr-i)2, Cumene hydroperoxide, S:98-82-8
4. NaHCO3, Na2S2O3, Me2CHOH, Water



82%

NOTE: optimization study, optimized on catalyst, stereoselective
CON: STAGE(1) 40 - 45 deg C
STAGE(2) 40 - 45 deg C; 1 hour; 30 deg C
STAGE(3) 20 hours, 30 deg C

=> => file caplus
FILE 'CAPLUS' ENTERED AT 13:11:18 ON 20 MAR 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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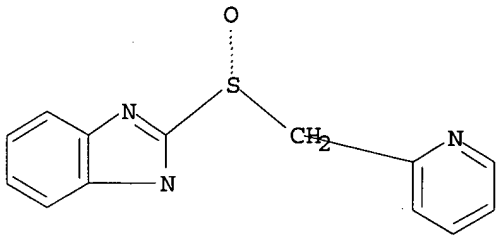
FILE COVERS 1907 - 20 Mar 2007 VOL 146 ISS 13
FILE LAST UPDATED: 19 Mar 2007 (20070319/ED)

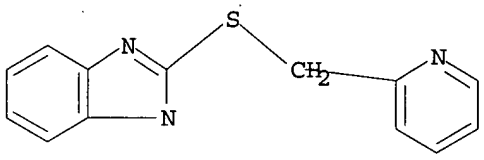
Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/infopolicy.html

=> d que
L7 STR



Structure attributes must be viewed using STN Express query preparation.
L8 STR



Structure attributes must be viewed using STN Express query preparation.
L9 2415 SEA FILE=REGISTRY SSS FUL L7
L10 3701 SEA FILE=REGISTRY SSS FUL L8
L11 5309 SEA FILE=CAPLUS L9 AND L10
L12 5 SEA FILE=CAPLUS L11 AND ZIRCONIU?

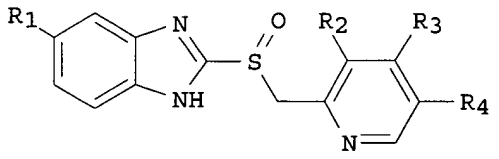
=> d l12 1-5 ibib abs hitstr

L12 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:365469 CAPLUS
DOCUMENT NUMBER: 144:390922
TITLE: Stereoselective oxidation processes for the preparation of chiral substituted sulfoxides from the racemic sulfides
INVENTOR(S): Kumar, Neela Praveen; Khanna, Mahavir Singh; Prasad, Mohan; Kumar, Yatendra
PATENT ASSIGNEE(S): Ranbaxy Laboratories Limited, India
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006040635	A1	20060420	WO 2005-IB2946	20051004

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,

KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.: IN 2004-DE1957 A 20041011
OTHER SOURCE(S): CASREACT 144:390922; MARPAT 144:390922
GI



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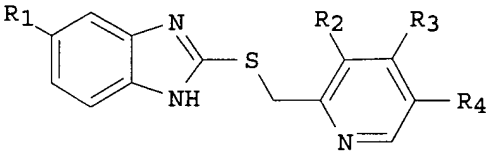
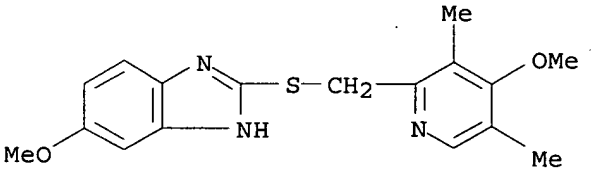


II

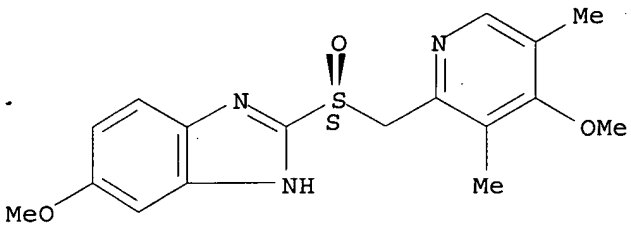
AB An enantioselective catalytic oxidation process for the preparation of an optically active enantiomer or an enantiomerically enriched form of a substituted pyridinylmethylsulfinylbenzimidazole [I; R1-R4 = H, C1-4 (un)branched alkyl, C1-4 (un)branched alkoxy, aryl, aryloxy], or its pharmaceutically acceptable salts (e.g., esomeprazole potassium), comprises oxidizing a prochiral sulfide (II; e.g., omeprazole sulfide) in the presence of a chiral transition metal complex [e.g., titanium isopropoxide and L-(+)-diethyl tartrate] and a base (e.g., diisopropylethylamine) in the absence of an organic solvent with an oxidant (e.g., cumene hydroperoxide) followed by an optional salification (e.g., potassium hydroxide).

IT 73590-85-9, Omeprazole sulfide
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective oxidation processes for the preparation of chiral substituted sulfoxides)
RN 73590-85-9 CAPLUS
CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)



IT 793668-06-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(stereoselective oxidation processes for the preparation of chiral substituted sulfoxides)
RN 793668-06-1 CAPLUS
CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, barium salt (9CI) (CA INDEX NAME)

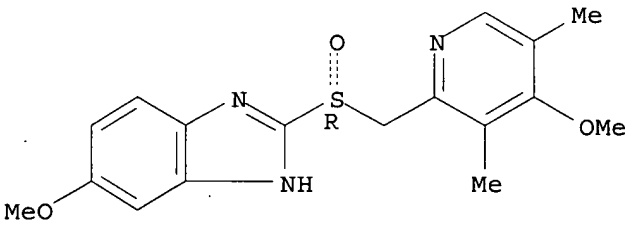
Absolute stereochemistry. Rotation (-).



●1/2 Ba

IT 161796-81-2P 161796-84-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective oxidation processes for the preparation of chiral substituted
sulfoxides)
RN 161796-81-2 CAPLUS
CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, potassium salt (9CI) (CA INDEX NAME)

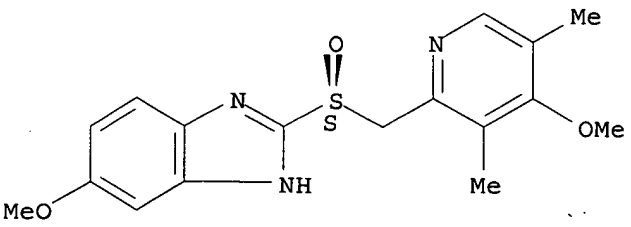
Absolute stereochemistry. Rotation (+).



● K

RN 161796-84-5 CAPLUS
CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, potassium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



● K

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1314518 CAPLUS
DOCUMENT NUMBER: 144:51582
TITLE: Process for the preparation of pyridin-2-ylmethylsulfinyl-1H-benzimidazoles via oxidation of the corresponding sulfides in the presence of zirconium or hafnium complexes.
INVENTOR(S): Kohl, Bernhard; Mueller, Bernd; Weingart, Ralf Steffen
PATENT ASSIGNEE(S): Altana Pharma AG, Germany
SOURCE: PCT Int. Appl., 15 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005118569	A1	20051215	WO 2005-EP52471	20050531
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2005250175	A1	20051215	AU 2005-250175	20050531
CA 2568652	A1	20051215	CA 2005-2568652	20050531
EP 1758889	A1	20070307	EP 2005-752651	20050531
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				

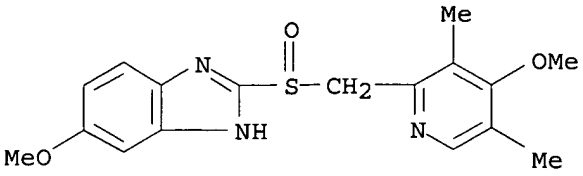
PRIORITY APPLN. INFO.: EP 2004-102467 A 20040602
WO 2005-EP52471 W 20050531

OTHER SOURCE(S): CASREACT 144:51582

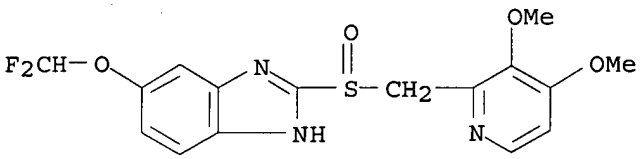
AB A process for preparing mixts. of enantiomers of proton pump inhibitors (PPIs) having a sulfinyl structure comprises oxidation of the corresponding sulfides in the presence of a mixture of enantiomers of chiral zirconium or hafnium complexes. Thus, 5-difluoromethoxy-2-[(3,4-dimethoxy-2-pyridinyl)methylthio]-1H-benzimidazole was heated with DL-tartaric acid bis(N-pyrrolidinamide) and zirconium tetra-n-propoxide in Me iso-Bu ketone at 40° for 1 h followed by addition of diisopropylethylamine and slow addition of cumene hydroperoxide to give 75% 5-difluoromethoxy-2-[(3,4-dimethoxy-2-pyridinyl)methylsulfinyl]-1H-benzimidazole.

IT 73590-58-6P 102625-70-7P, 5-Difluoromethoxy-2-[(3,4-dimethoxy-2-pyridinyl)methylsulfinyl]-1H-benzimidazole 103577-45-3P 117976-89-3P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(claimed compound; preparation of pyridinylmethylsulfinylbenzimidazoles via oxidation of the corresponding sulfides in the presence of zirconium or hafnium complexes)

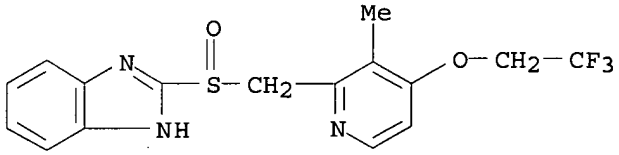
RN 73590-58-6 CAPLUS
CN 1H-Benzimidazole, 6-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)



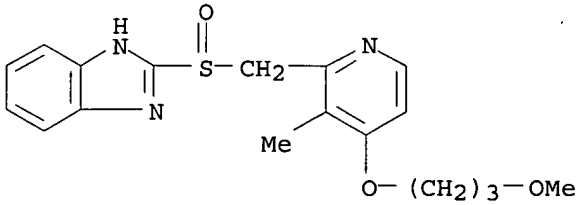
RN 102625-70-7 CAPLUS
CN 1H-Benzimidazole, 6-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)



RN 103577-45-3 CAPLUS
CN 1H-Benzimidazole, 2-[[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]- (CA INDEX NAME)

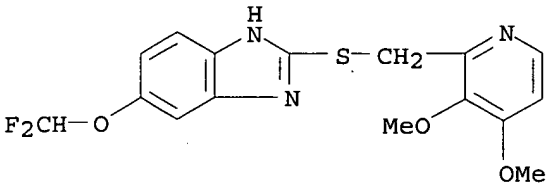


RN 117976-89-3 CAPLUS
CN 1H-Benzimidazole, 2-[[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]- (CA INDEX NAME)



IT 102625-64-9, 5-Difluoromethoxy-2-[(3,4-dimethoxy-2-pyridinyl)methylthio]-1H-benzimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of pyridinylmethylsulfinylbenzimidazoles via oxidation of the corresponding sulfides in the presence of zirconium or hafnium complexes)

RN 102625-64-9 CAPLUS
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:515505 CAPLUS
DOCUMENT NUMBER: 141:71546
TITLE: Process for preparing optically pure 2-(2-pyridylmethylsulfinyl)-1H-benzimidazole and 2-(2-pyridylmethylsulfinyl)-1H-imidazo[4,5-b]pyridine as proton pump inhibitors (PPI)
INVENTOR(S): Kohl, Bernhard; Mueller, Bernd; Weingart, Ralf Steffen
PATENT ASSIGNEE(S): Altana Pharma Ag, Germany
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004052882	A1	20040624	WO 2003-EP13605	20031203
W: AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, EG, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
CA 2507807	A1	20040624	CA 2003-2507807	20031203
AU 2003289948	A1	20040630	AU 2003-289948	20031203
EP 1578742	A1	20050928	EP 2003-782288	20031203
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003017005	A	20051025	BR 2003-17005	20031203
CN 1717403	A	20060104	CN 2003-80104410	20031203
JP 2006516261	T	20060629	JP 2005-502310	20031203
US 2005288334	A1	20051229	US 2005-536766	20050527
NO 2005003099	A	20050624	NO 2005-3099	20050624
IN 2005MN00674	A	20051021	IN 2005-MN674	20050627
PRIORITY APPLN. INFO.:			EP 2002-27273 A	20021206
			DE 2003-10340255 A	20030829
			WO 2003-EP13605 W	20031203

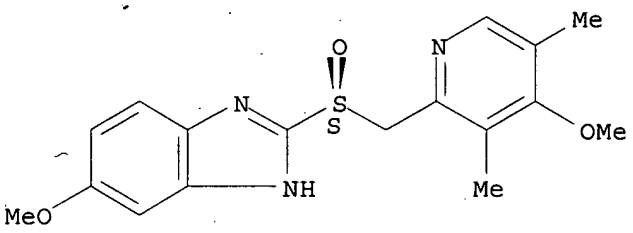
AB Described is a process for preparing optically pure PPI having a sulfinyl structure in enantiomerically pure or enantiomerically enriched form by oxidation of the corresponding sulfides in the presence of a chiral zirconium or hafnium complex. Thus, 20.2 g 5-difluoromethoxy-2-[(3,4-dimethoxy-2-pyridinyl)methylthio]-1H-benzimidazole together with 17.9 g di-Et (+)-tartrate, 13.4 g zirconium(IV) isopropoxide/isopropanol complex and 0.1 mL H2O were suspended in 100 mL Me iso-Bu ketone and heated at 40° for one hour to give an almost clear solution After cooling to room temperature, 4.1 mL N-ethyldiisopropylamine was added, followed by slowly metering 11 mL cumene hydroperoxide, and the

mixture was stirred at room temperature until the oxidation process to give, after
workup, (-)-pantoprazole as a beige powder of m.p. 145° (decomposition) and an optical purity of >95%. After recrystn. from isopropanol, a clear crystal of m.p. 147-149° (decomposition) with an optical rotation of a D20 = -140° (c = 0.5, MeOH) was obtained.

IT 119141-88-7P, (S)-5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole 119141-89-8P, (R)-5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole 138530-94-6P, (R)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole 138530-95-7P, (S)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole 142678-35-1P 142706-18-1P 161796-78-7P 177795-59-4P, (S)-2-[[[4-(3-Methoxypropoxy)-3-methylpyridin-2-yl]methyl]sulfinyl]-1H-benzimidazole 177795-60-7P, (R)-2-[[[4-(3-Methoxypropoxy)-3-methylpyridin-2-yl]methyl]sulfinyl]-1H-benzimidazole
RL: *PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparing optically pure 2-(2-pyridylmethylsulfinyl)-1H-benzimidazole and -1H-imidazo[4,5-b]pyridine as proton pump inhibitors by oxidation of sulfides in the presence of a chiral zirconium or hafnium complex)

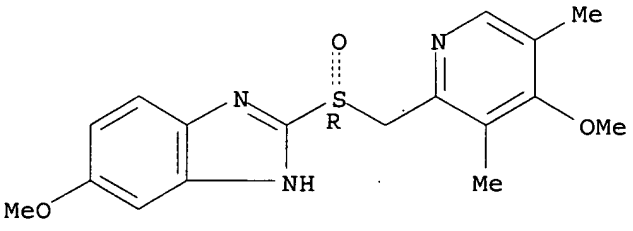
RN 119141-88-7 CAPLUS
CN 1H-Benzimidazole, 6-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



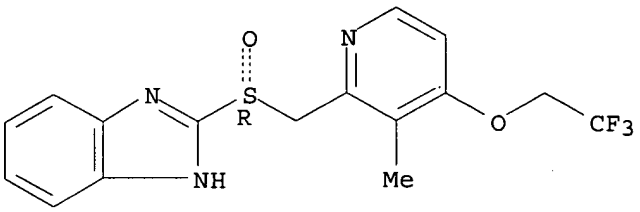
RN 119141-89-8 CAPLUS
CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



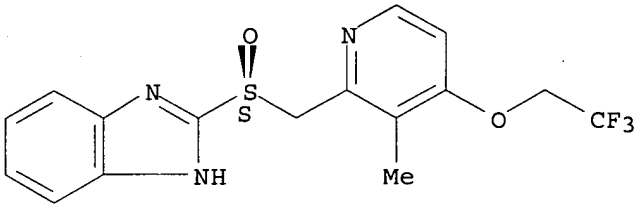
RN 138530-94-6 CAPLUS
CN 1H-Benzimidazole, 2-[(R)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



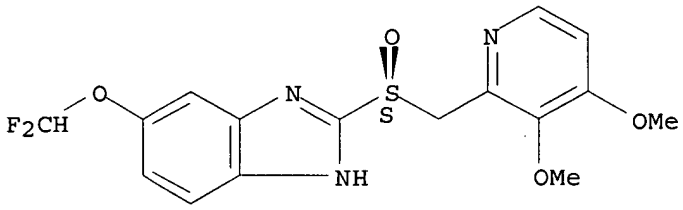
RN 138530-95-7 CAPLUS
CN 1H-Benzimidazole, 2-[(S)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



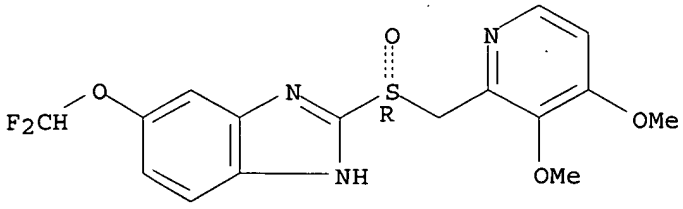
RN 142678-35-1 CAPLUS
CN 1H-Benzimidazole, 6-(difluoromethoxy)-2-[(S)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



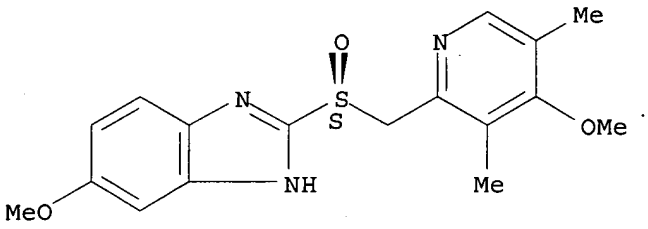
RN 142706-18-1 CAPLUS
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[(R)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 161796-78-7 CAPLUS
CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)

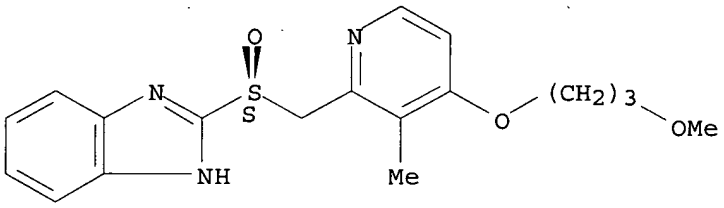
Absolute stereochemistry. Rotation (-).



● Na

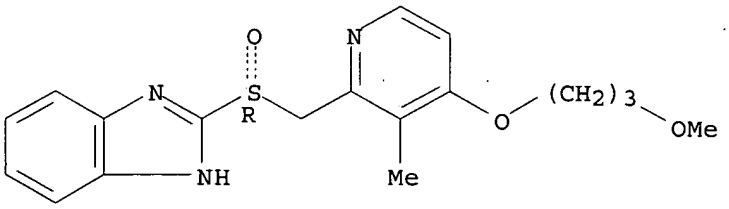
RN 177795-59-4 CAPLUS
CN 1H-Benzimidazole, 2-[(S)-[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

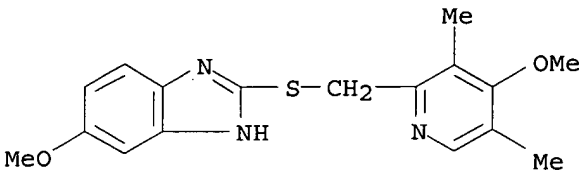


RN 177795-60-7 CAPLUS
CN 1H-Benzimidazole, 2-[(R)-[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

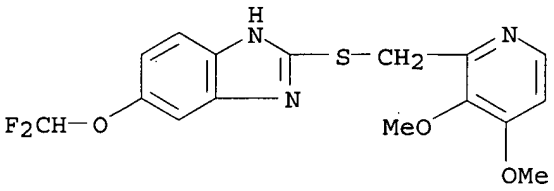
Absolute stereochemistry. Rotation (+).



IT 73590-85-9, 5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]thio]-1H-benzimidazole 102625-64-9, 5-Difluoromethoxy-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]thio]-1H-benzimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant; preparing optically pure 2-(2-pyridyolmethylsulfinyl)-1H-benzimidazole and -1H-imidazo[4,5-b]pyridine as proton pump inhibitors by oxidation of sulfides in the presence of a chiral zirconium or hafnium complex)
RN 73590-85-9 CAPLUS
CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)



RN 102625-64-9 CAPLUS
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)



L12 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:515504 CAPLUS
DOCUMENT NUMBER: 141:54346
TITLE: A process for preparing (S)-pantoprazole via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium catalyst
INVENTOR(S): Kohl, Bernhard; Mueller, Bernd; Weingart, Ralf Steffen
PATENT ASSIGNEE(S): Altana Pharma Ag, Germany
SOURCE: PCT Int. Appl., 14 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

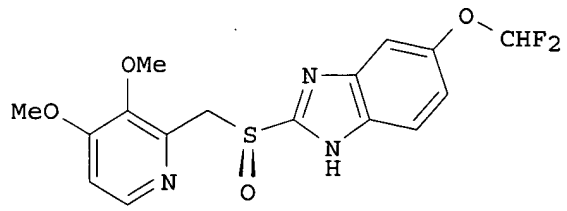
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004052881	A2	20040624	WO 2003-EP13604	20031203
WO 2004052881	A3	20041104		
W: AE, AL, AU, BA, BR, CA, CN, CO, DZ, EC, EG, GE, HR, ID, IL, IN, IS, JP, KR, LT, LV, MA, MK, MX, NO, NZ, PH, PL, SG, TN, UA, US, VN, YU, ZA, ZW				
RW: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
CA 2507889	A1	20040624	CA 2003-2507889	20031203
AU 2003293749	A1	20040630	AU 2003-293749	20031203
EP 1575941	A2	20050921	EP 2003-789113	20031203
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003016702	A	20051018	BR 2003-16702	20031203
CN 1717402	A	20060104	CN 2003-80104409	20031203
JP 2006514985	T	20060518	JP 2005-502309	20031203
IN 2005MN00673	A	20051021	IN 2005-MN673	20050627
US 2006167262	A1	20060727	US 2005-536891	20051125

PRIORITY APPLN. INFO.: EP 2002-27274 A 20021206
DE 2003-10340254 A 20030829

WO 2003-EP13604 W 20031203

OTHER SOURCE(S): CASREACT 141:54346

GI



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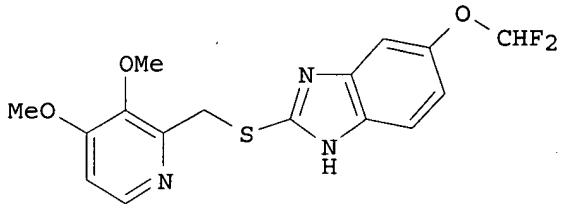


II

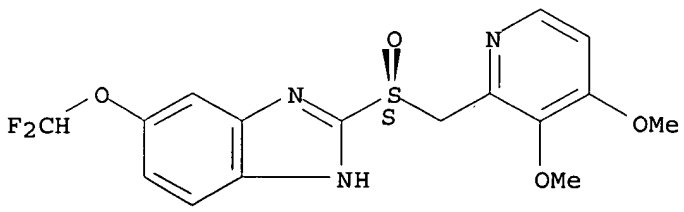
AB The invention relates to a novel process for preparing (S)-pantoprazole (I) via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium catalyst. For instance, the title compound I, useful as proton pump inhibitor, was prepared from thiobenzimidazole derivative II in the presence of L-tartaric acid amide via Zr(IV) isopropoxide catalyzed oxidation by cumene hydroperoxide with a yield of 80% (optical purity was >98%, example 3).

IT 142678-35-1P, (S)-Pantoprazole
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of (S)-pantoprazole via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium catalyst)

RN 142678-35-1 CAPLUS

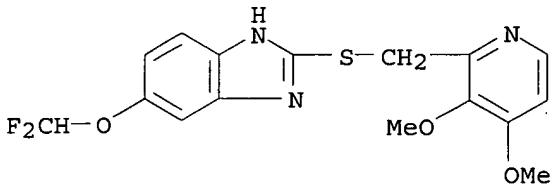
CN 1H-Benzimidazole, 6-(difluoromethoxy)-2-[(S)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



IT 102625-64-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (S)-pantoprazole via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium

catalyst)
RN 102625-64-9 CAPLUS
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)

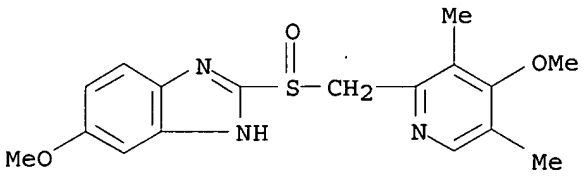


L12 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:594647 CAPLUS
DOCUMENT NUMBER: 137:145224
TITLE: An ATPase inhibitor-containing cosmetic products for the reduction of sweat acidity
INVENTOR(S): Beck, Jonathan Samuel; Burry, Jason Shaun; Evans, Richard Livesey; Granger, Dominic; Laprade, Raynald; Marsolais, Mireille
PATENT ASSIGNEE(S): Unilever PLC, UK; Unilever NV; Hindustan Lever Limited
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002060402	A1	20020808	WO 2002-EP670	20020121
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002146376	A1	20021010	US 2002-66183	20020131
US 6509010	B2	20030121		

PRIORITY APPLN. INFO.: GB 2001-2562 A 20010201
OTHER SOURCE(S): MARPAT 137:145224
AB A cosmetic method of reducing the acidity of sweat excreted from human eccrine glands comprises the topical application of a vacuolar-type H+-ATPase (V-ATPase) inhibitor to the skin in the vicinity of the eccrine glands. The method may result in a range of benefits, including enhanced appreciation of topically-applied perfume and enhanced efficacy of topically-applied antiperspirant salt. Cosmetic products and compns. comprising a V-ATPase inhibitor and selected other components are also claimed. For example, olygomycin (at 20 μg/mL), bafilomycin A1 (at 6.2 μg/mL), and concanamycin A (at 0.1 μg/mL) all inhibit proton transfer out of the cells of the reabsorptive duct affecting the pH recovery by 12, 27, and 5%, resp., compared to 100% pH recovery in the control (no V-ATPase inhibitor).
IT 73590-58-6, Omeprazole
RL: COS (Cosmetic use); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)

(ATPase inhibitor-containing cosmetic products for reduction of sweat acidity)
RN 73590-58-6 CAPLUS
CN 1H-Benzimidazole, 6-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)

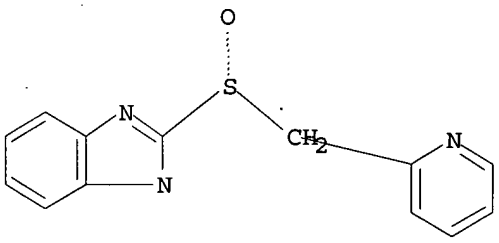


REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

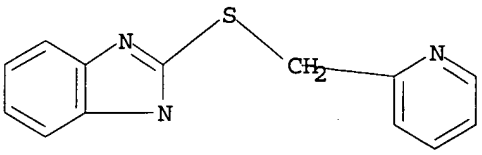
=> => file uspatall
FILE 'USPATFULL' ENTERED AT 13:12:21 ON 20 MAR 2007
CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 13:12:21 ON 20 MAR 2007
CA INDEXING COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

=> d que
L7 STR



Structure attributes must be viewed using STN Express query preparation.
L8 STR



Structure attributes must be viewed using STN Express query preparation.
L9 2415 SEA FILE=REGISTRY SSS FUL L7
L10 3701 SEA FILE=REGISTRY SSS FUL L8
L11 5309 SEA FILE=CAPLUS L9 AND L10
L13 1000 SEA L10 AND L11
L14 6 SEA L13 AND ZIRCONIU?

=> d l14 1-6 ibib abs hitstr

L14 ANSWER 1 OF 6 USPATFULL on STN
ACCESSION NUMBER: 2007:18065 USPATFULL

10/536,891

TITLE: Benzimidazole compound
INVENTOR(S): Miyazawa, Shuhei, Tsukuba, JAPAN
Shinoda, Masanobu, Tsukuba, JAPAN
Kawahara, Tetsuya, Tsukuba, JAPAN
Watanabe, Nobuhisa, Tsukuba, JAPAN
Harada, Hitoshi, Tsukuba, JAPAN
Iida, Daisuke, Tsukuba, JAPAN
Terauchi, Hiroki, Tsukkuba, JAPAN
Nagakawa, Junichi, Tsukuba, JAPAN
Fujisaki, Hideaki, Tsukuba, JAPAN
Kubota, Atsuhiko, Tsukuba, JAPAN
Ueda, Masato, Tsukuba, JAPAN
PATENT ASSIGNEE(S): Eisai Co., Ltd. (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007015782	A1	20070118
APPLICATION INFO.:	US 2006-403815	A1	20060414 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2005-117643	20050415
	US 2005-675848P	20050429 (60)

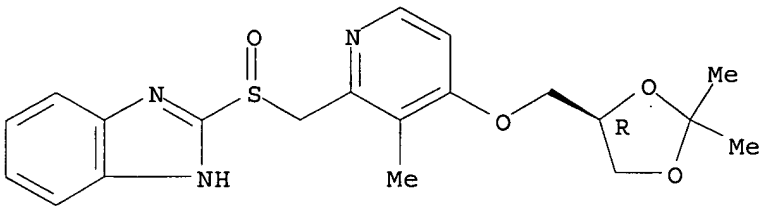
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747, US
NUMBER OF CLAIMS: 41
EXEMPLARY CLAIM: 1
LINE COUNT: 7604
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An object of the present invention is to provide a novel chemical compound useful as a therapeutic or prophylactic agent for acid-related diseases, having an excellent inhibitory effect against gastric acid secretion, an excellent effect of maintaining the inhibitory effect against gastric acid secretion, thereby maintaining intragastric pH high for a long time, and having more safety and appropriate physicochemical stability. Provided is a compound represented by ##STR1##

where R.sup.1 and R.sup.3 may be the same or different and each represent a hydrogen atom or a C1-C6 alkyl group; R.sup.2 represents (5,5-dimethyl-1,3-dioxan-2-yl)methoxy group, 5,7-dioxaspiro[2.5]oct-6-ylmethoxy group, 1,5,9-trioxaspiro[5.5]undec-3-ylmethoxy group, or (2,2-dimethyl-1,3-dioxan-5-yl)methoxy group;
R.sup.4, R.sup.5, R.sup.6 and R.sup.7 represent a hydrogen atom, halogen atom, C1-C6 alkyl group, C1-C6 haloalkyl group, C1-C6 alkoxy group or C1-C6 haloalkoxy group; and W.sup.1 represents a single bond, methylene or ethylene group, a salt thereof or a solvate of these.

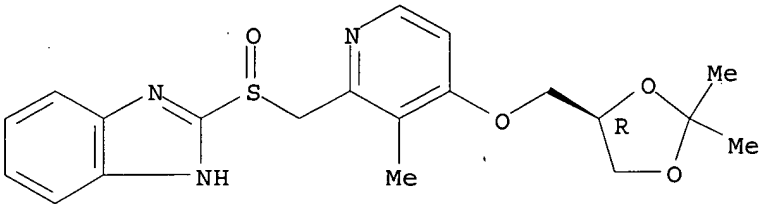
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT 913694-83-4P 913694-84-5P 913695-48-4P
(preparation of benzimidazole derivs. as gastric acid secretion inhibitors)
RN 913694-83-4 USPATFULL
CN 1H-Benzimidazole, 2-[[[4-[[(4R)-2,2-dimethyl-1,3-dioxolan-4-yl]methoxy]-3-methyl-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



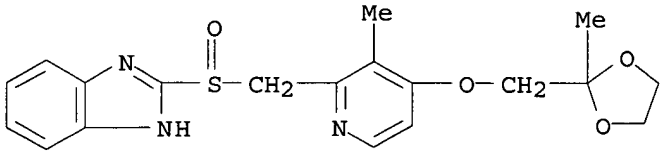
RN 913694-84-5 USPATFULL
CN 1H-Benzimidazole, 2-[[[4-[[(4R)-2,2-dimethyl-1,3-dioxolan-4-yl]methoxy]-3-methyl-2-pyridinyl]methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● Na

RN 913695-48-4 USPATFULL
CN 1H-Benzimidazole, 2-[[[3-methyl-4-[(2-methyl-1,3-dioxolan-2-yl)methoxy]-2-pyridinyl]methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)



● Na

IT 913694-93-6P 913694-95-8P 913694-97-0P
913694-99-2P
(preparation of benzimidazole derivs. as gastric acid secretion inhibitors)
RN 913694-93-6 USPATFULL
CN 1H-Benzimidazole, 2-[(S)-[[3-methyl-4-(1,5,9-trioxaspiro[5.5]undec-3-ylmethoxy)-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L14 ANSWER 2 OF 6 USPATFULL on STN

ACCESSION NUMBER:	2007:12127 USPATFULL
TITLE:	Benzimidazole compound
INVENTOR(S):	Miyazawa, Shuhei, Tsukuba, JAPAN Shinoda, Masanobu, Tsukuba, JAPAN Kawahara, Tetsuya, Tsukuba, JAPAN Watanabe, Nobuhisa, Tsukuba, JAPAN Harada, Hitoshi, Tsukuba, JAPAN Iida, Daisuke, Tsukuba, JAPAN Terauchi, Hiroki, Tsukuba, JAPAN Nagakawa, Junichi, Tsukuba, JAPAN Fujisaki, Hideaki, Tsukuba, JAPAN Kubota, Atsuhiko, Tsukuba, JAPAN Ueda, Masato, Tsukuba, JAPAN
PATENT ASSIGNEE(S):	Eisai Co., Ltd. (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007010542	A1	20070111
APPLICATION INFO.:	US 2006-520838	A1	20060914 (11)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2006-403815, filed on 14 Apr 2006, PENDING		

	NUMBER	DATE
PRIORITY INFORMATION:	JP 2005-117643	20050415
	US 2005-675848P	20050429 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747, US
NUMBER OF CLAIMS:	41
EXEMPLARY CLAIM:	1
LINE COUNT:	7599

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An object of the present invention is to provide a novel chemical compound useful as a therapeutic or prophylactic agent for acid-related diseases, having an excellent inhibitory effect against gastric acid secretion, an excellent effect of maintaining the inhibitory effect against gastric acid secretion, thereby maintaining intragastric pH high for a long time, and having more safety and appropriate physicochemical stability. Provided is a compound represented by ##STR1##

where R.sup.1 and R.sup.3 may be the same or different and each represent a hydrogen atom or a C1-C6 alkyl group; R.sup.2 represents (5,5-dimethyl-1,3-dioxan-2-yl)methoxy group, 5,7-dioxaspiro[2.5]oct-6-ylmethoxy group, 1,5,9-trioxaspiro[5.5]undec-3-ylmethoxy group, or (2,2-dimethyl-1,3-dioxan-5-yl)methoxy group;

R.sup.4, R.sup.5, R.sup.6 and R.sup.7 represent a hydrogen atom, halogen atom, C1-C6 alkyl group, C1-C6 haloalkyl group, C1-C6 alkoxy group or C1-C6 haloalkoxy group; and W.sup.1 represents a single bond, methylene or ethylene group, a salt thereof or a solvate of these.

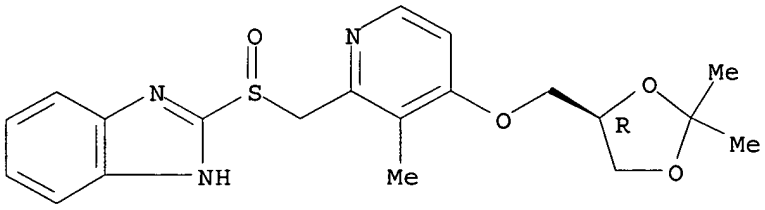
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 913694-83-4P 913694-84-5P
(preparation of benzimidazole derivs. as gastric acid secretion inhibitors)

RN 913694-83-4 USPATFULL

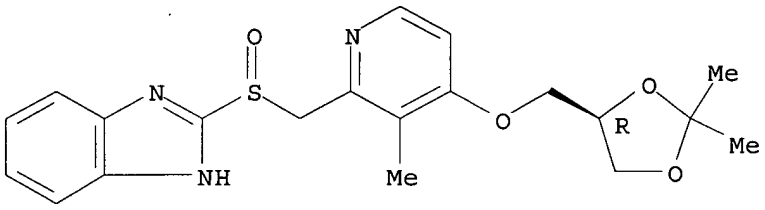
CN 1H-Benzimidazole, 2-[[[4-[[(4R)-2,2-dimethyl-1,3-dioxolan-4-yl]methoxy]-3-methyl-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 913694-84-5 USPATFULL
CN 1H-Benzimidazole, 2-[[[4-[[(4R)-2,2-dimethyl-1,3-dioxolan-4-yl]methoxy]-3-methyl-2-pyridinyl]methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)

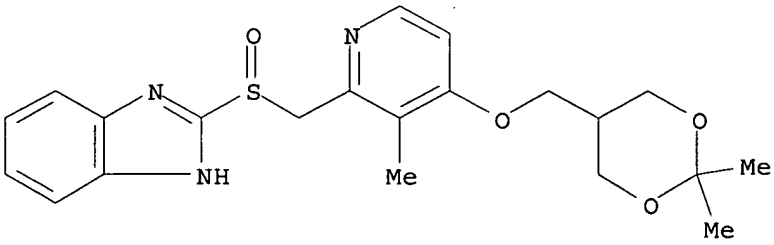
Absolute stereochemistry.



● Na

IT 913694-89-0P 913694-91-4P 913694-93-6P
913694-95-8P 913694-97-0P 913694-99-2P
(preparation of benzimidazole derivs. as gastric acid secretion inhibitors)
RN 913694-89-0 USPATFULL
CN 1H-Benzimidazole, 2-[[[4-[(2,2-dimethyl-1,3-dioxan-5-yl)methoxy]-3-methyl-2-pyridinyl]methyl]sulfinyl]-, (-)- (9CI) (CA INDEX NAME)

Rotation (-).

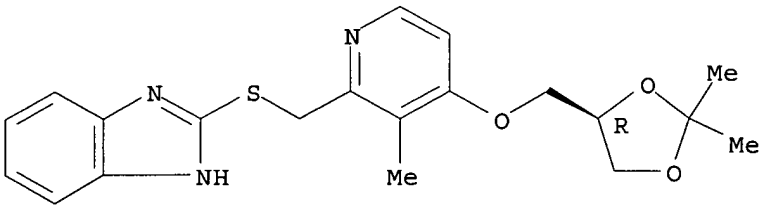


RN 913694-91-4 USPATFULL
CN 1H-Benzimidazole, 2-[[[4-[(2,2-dimethyl-1,3-dioxan-5-yl)methoxy]-3-methyl-2-pyridinyl]methyl]sulfinyl]-, (+)- (9CI) (CA INDEX NAME)

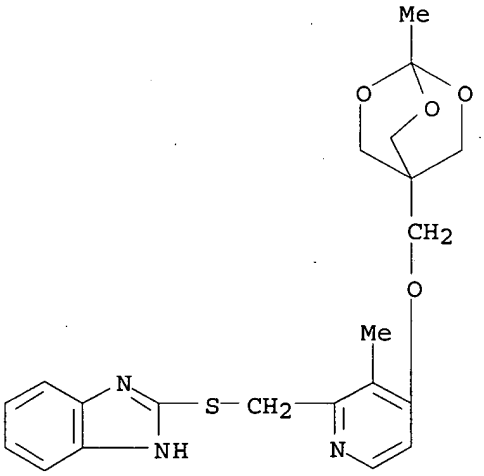
Rotation (+).

RN 913696-36-3 USPATFULL
CN 1H-Benzimidazole, 2-[[[4-[[(4R)-2,2-dimethyl-1,3-dioxolan-4-yl]methoxy]-3-methyl-2-pyridinyl]methyl]thio]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 913696-40-9 USPATFULL
CN 1H-Benzimidazole, 2-[[[3-methyl-4-[(1-methyl-2,6,7-trioxabicyclo[2.2.2]oct-4-yl)methoxy]-2-pyridinyl]methyl]thio]- (9CI) (CA INDEX NAME)



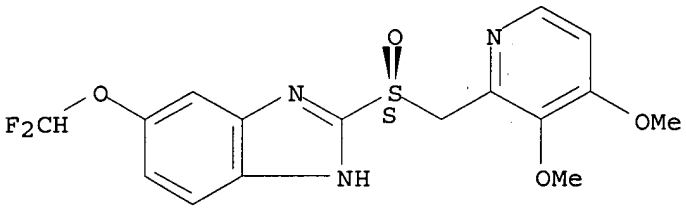
L14 ANSWER 3 OF 6 USPATFULL on STN

ACCESSION NUMBER:	2006:196505 USPATFULL			
TITLE:	Process for preparing (s)-pantoprazole			
INVENTOR(S):	Kohl, Bernhard, Konstanz, GERMANY, FEDERAL REPUBLIC OF			
	Muller, Bernd, Konstanz, GERMANY, FEDERAL REPUBLIC OF			
	Steffen, Ralf, Weingart, GERMANY, FEDERAL REPUBLIC OF			
	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2006167262	A1	20060727	
APPLICATION INFO.:	US 2003-536891	A1	20031203	(10)
	WO 2003-EP13604		20031203	
			20051125	PCT 371 date
	NUMBER		DATE	
PRIORITY INFORMATION:	EP 2002-27274		20021206	
DOCUMENT TYPE:	Utility			
FILE SEGMENT:	APPLICATION			
LEGAL REPRESENTATIVE:	NATH & ASSOCIATES PLLC, 112 South West Street, Alexandria, VA, 22314, US			
NUMBER OF CLAIMS:	23			
EXEMPLARY CLAIM:	1			

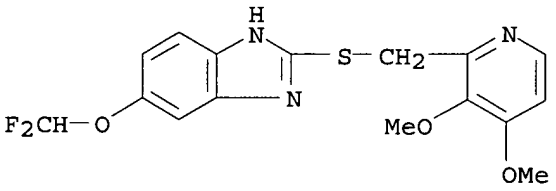
LINE COUNT: 589
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a novel process for preparing (S)-pantoprazole using a chiral zirconium complex or a chiral hafnium complex.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT 142678-35-1P, (S)-Pantoprazole
(preparation of (S)-pantoprazole via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium catalyst)
RN 142678-35-1 USPATFULL
CN 1H-Benzimidazole, 6-(difluoromethoxy)-2-[(S)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



IT 102625-64-9
(preparation of (S)-pantoprazole via stereoselective oxidation of pyridinylmethylsulfinylbenzimidazole derivative in the presence of L-tartaric acid derivative and chiral zirconium or hafnium catalyst)
RN 102625-64-9 USPATFULL
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)



L14 ANSWER 4 OF 6 USPATFULL on STN
ACCESSION NUMBER: 2005:331348 USPATFULL
TITLE: Process for preparing optically pure active compounds
INVENTOR(S): Kohl, Bernhard, Konstanz, GERMANY, FEDERAL REPUBLIC OF
Muller, Bernd, Konstanz, GERMANY, FEDERAL REPUBLIC OF
Weingart, Ralf Steffen, Konstanz, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): Altana Pharma AG, Konstanz, GERMANY, FEDERAL REPUBLIC OF, 78467 (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2005288334	A1	20051229	
APPLICATION INFO.:	US 2003-536766	A1	20031203	(10)
	WO 2003-EP13605		20031203	
			20050527	PCT 371 date

NUMBER	DATE

PRIORITY INFORMATION: EP 2002-27273 20021206
DE 2003-10340255 20030829
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: NATH & ASSOCIATES PLLC, 1030 FIFTEENTH STREET, N.W., SIXTH FLOOR, WASHINGTON, DC, 20005, US
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
LINE COUNT: 779

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to a novel process for preparing an optically pure PPI having a sulfinyl structure using a chiral zirconium complex or a chiral hafnium complex.

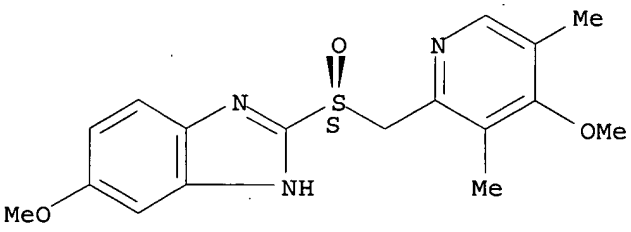
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 119141-88-7P, (S)-5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole 119141-89-8P, (R)-5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole 138530-94-6P, (R)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole 138530-95-7P, (S)-2-[[[3-Methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]-1H-benzimidazole 142678-35-1P 142706-18-1P 161796-78-7P 177795-59-4P, (S)-2-[[[4-(3-Methoxypropoxy)-3-methylpyridin-2-yl]methyl]sulfinyl]-1H-benzimidazole 177795-60-7P, (R)-2-[[[4-(3-Methoxypropoxy)-3-methylpyridin-2-yl]methyl]sulfinyl]-1H-benzimidazole
(preparing optically pure 2-(2-pyridyolmethylsulfinyl)-1H-benzimidazole and -1H-imidazo[4,5-b]pyridine as proton pump inhibitors by oxidation of sulfides in the presence of a chiral zirconium or hafnium complex)

RN 119141-88-7 USPATFULL

CN 1H-Benzimidazole, 6-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)

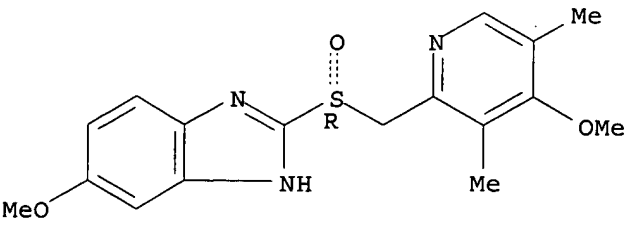
Absolute stereochemistry. Rotation (-).



RN 119141-89-8 USPATFULL

CN 1H-Benzimidazole, 5-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

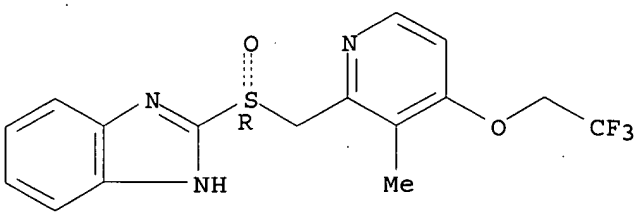


RN 138530-94-6 USPATFULL

CN 1H-Benzimidazole, 2-[(R)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-

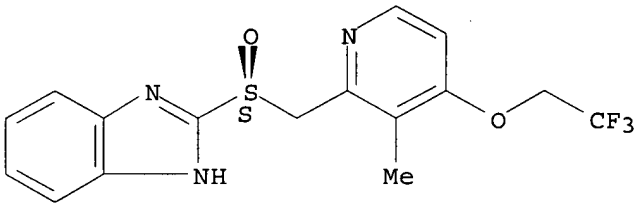
pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



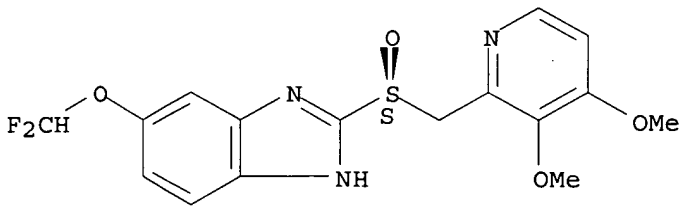
RN 138530-95-7 USPATFULL
CN 1H-Benzimidazole, 2-[(S)-[[3-methyl-4-(2,2,2-trifluoroethoxy)-2-pyridinyl]methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



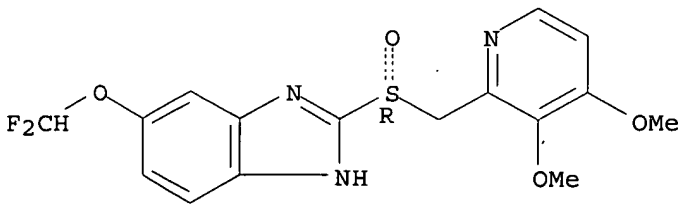
RN 142678-35-1 USPATFULL
CN 1H-Benzimidazole, 6-(difluoromethoxy)-2-[(S)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



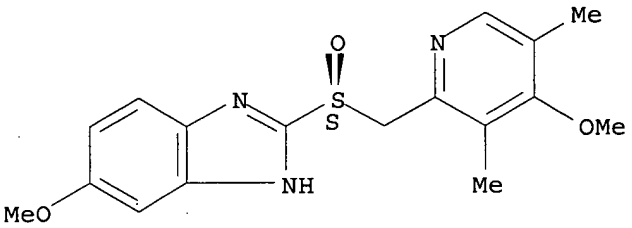
RN 142706-18-1 USPATFULL
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[(R)-[(3,4-dimethoxy-2-pyridinyl)methyl]sulfinyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



RN 161796-78-7 USPATFULL
CN 1H-Benzimidazole, 5-methoxy-2-[(S)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-, sodium salt (9CI) (CA INDEX NAME)

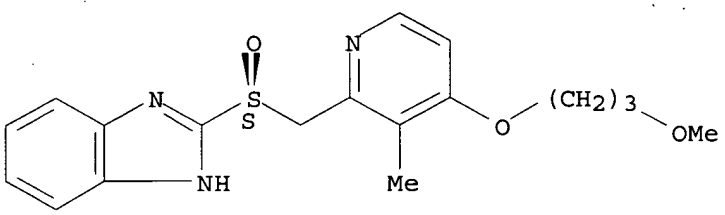
Absolute stereochemistry. Rotation (-).



● Na

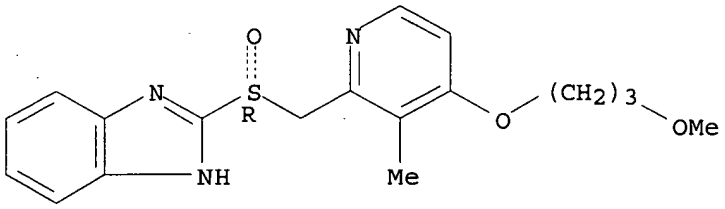
RN 177795-59-4 USPATFULL
CN 1H-Benzimidazole, 2-[(S)-[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]- (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

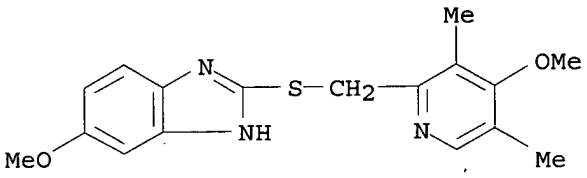


RN 177795-60-7 USPATFULL
CN 1H-Benzimidazole, 2-[(R)-[[4-(3-methoxypropoxy)-3-methyl-2-pyridinyl]methyl]sulfinyl]- (9CI) (CA INDEX NAME)

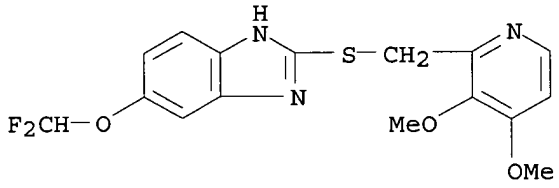
Absolute stereochemistry. Rotation (+).



IT 73590-85-9, 5-Methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]thio]-1H-benzimidazole 102625-64-9, 5-Difluoromethoxy-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]thio]-1H-benzimidazole
(reactant; preparing optically pure 2-(2-pyridyolmethylsulfinyl)-1H-benzimidazole and -1H-imidazo[4,5-b]pyridine as proton pump inhibitors by oxidation of sulfides in the presence of a chiral zirconium or hafnium complex)
RN 73590-85-9 USPATFULL
CN 1H-Benzimidazole, 5-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)



RN 102625-64-9 USPATFULL
CN 1H-Benzimidazole, 5-(difluoromethoxy)-2-[[(3,4-dimethoxy-2-pyridinyl)methyl]thio]- (9CI) (CA INDEX NAME)



L14 ANSWER 5 OF 6 USPATFULL on STN

ACCESSION NUMBER:	2002:265504 USPATFULL
TITLE:	Cosmetic products for the reduction of sweat acidity
INVENTOR(S):	Beck, Jonathan Samuel, Bebington, UNITED KINGDOM Burry, Jason Shaun, Bebington, UNITED KINGDOM Evans, Richard Livesey, Bebington, UNITED KINGDOM Granger, Dominic, Montreal, CANADA Laprade, Raynald, Montreal, CANADA Marsolais, Mireille, Montreal, CANADA
PATENT ASSIGNEE(S):	Unilever Home & Personal Care USA, Division of Conopco, Inc. (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002146376	A1	20021010	
	US 6509010	B2	20030121	
APPLICATION INFO.:	US 2002-66183	A1	20020131	(10)

	NUMBER	DATE
PRIORITY INFORMATION:	GB 2001-2562	20010201

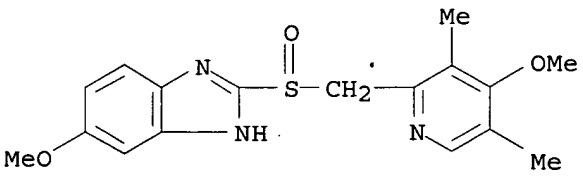
DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	UNILEVER, PATENT DEPARTMENT, 45 RIVER ROAD, EDGEWATER, NJ, 07020
NUMBER OF CLAIMS:	26
EXEMPLARY CLAIM:	1
LINE COUNT:	792

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A cosmetic method of reducing the acidity of sweat excreted from human eccrine glands, said method comprising the topical application of a V-ATPase inhibitor to the skin in the vicinity of the eccrine glands. Said method may result in a range of benefits, including enhanced appreciation of topically-applied perfume and enhanced efficacy of topically-applied antiperspirant salt. Cosmetic products and compositions comprising a V-ATPase inhibitor and selected other components are also claimed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 73590-58-6, Omeprazole
(ATPase inhibitor-containing cosmetic products for reduction of sweat acidity)
RN 73590-58-6 USPATFULL
CN 1H-Benzimidazole, 6-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)



L14 ANSWER 6 OF 6 USPAT2 on STN

ACCESSION NUMBER:	2002:265504 USPAT2
TITLE:	Cosmetic products for the reduction of sweat acidity
INVENTOR(S):	Beck, Jonathan Samuel, Wirral, UNITED KINGDOM Burry, Jason Shaun, Wirral, UNITED KINGDOM Evans, Richard Livesey, Wirral, UNITED KINGDOM Granger, Dominic, Montreal, CANADA Laprade, Raynald, Montreal, CANADA Marsolais, Mireille, Montreal, CANADA
PATENT ASSIGNEE(S):	Unilever Home & Personal Care USA, division of Conopco, Inc., Chicago, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6509010	B2	20030121	
APPLICATION INFO.:	US 2002-66183		20020131	(10)

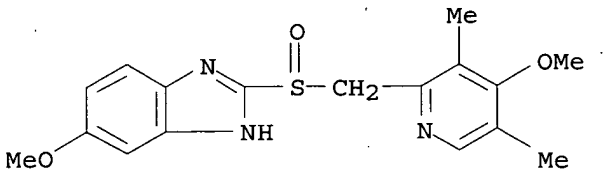
	NUMBER	DATE
PRIORITY INFORMATION:	GB 2001-2562	20010201

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Dodson, Shelley A.
LEGAL REPRESENTATIVE:	Stein, Kevin J.
NUMBER OF CLAIMS:	25
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT:	636

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A cosmetic method of reducing the acidity of sweat excreted from human eccrine glands, said method comprising the topical application of a V-ATPase inhibitor to the skin in the vicinity of the eccrine glands. Said method may result in a range of benefits, including enhanced appreciation of topically-applied perfume and enhanced efficacy of topically-applied antiperspirant salt. Cosmetic products and compositions comprising a V-ATPase inhibitor and selected other components are also claimed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT 73590-58-6, Omeprazole
(ATPase inhibitor-containing cosmetic products for reduction of sweat acidity)
RN 73590-58-6 USPAT2
CN 1H-Benzimidazole, 6-methoxy-2-[[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]- (CA INDEX NAME)


Me
O
OMe
N
S
CH2
NH
N
MeO
Me

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